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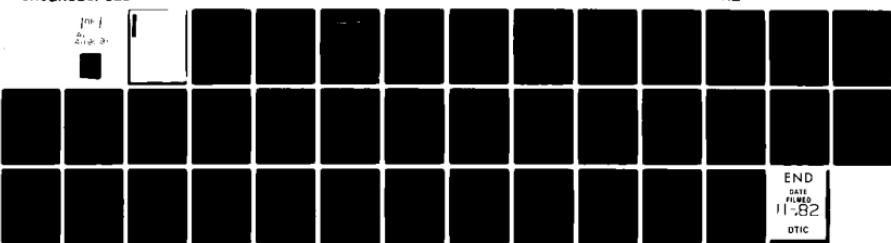
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INTEROPERABILITY-REFORGER 80 ILLUSTRATES THE IMPORTANCE. (U)
APR 82 J R RUTHERFORD

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departure. Support of these personnel has to have a high priority when

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This essay capitalizes on the experiences of the 2d Armored Division (US) during REFORGER 80. Using both a preceding CPX and the subsequent FTX, the author describes the experiences of the 2d AD while it was subordinate to the British 1st Corps in NORTHAG to describe the international coordination problems in the areas of liaison exchanges, passage of lines and command, control and communications. The essay describes the preparations and the actual activity. Using the description as a basis, he then focuses on these areas essential to		

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The successful conduct of the activity. Much of the success was achieved as a result of efforts beyond what is called for in normal US doctrines and organizations.

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US ARMY WAR COLLEGE
INDIVIDUAL RESEARCH BASED ESSAY

INTEROPERABILITY-REFORGER 86 ILLUSTRATES THE IMPORTANCE
BY
LTC JERRY R. RUTHERFORD

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PREFACE

This essay is primarily based upon the experience of the author. The views expressed are those of the author and do not necessarily reflect the views of the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

Our membership in NATO infers that we will fight the war in Europe together side by side and not separately. Facing a numerically superior force, the demand for interoperability between friendly forces is significant. Since World War II, it has become increasingly apparent that more interoperability and standardization is needed between the United States Army and the NATO Allies. The differences in terminology, tactical operations, equipment, doctrine and procedures must be minimized. This requirement is vital if we (Allies) are to be effective against the Soviets and their surrogates on the battlefield.

The Army has recognized this problem and has taken some positive steps to improve the situation. Among the several initiatives taken are the creation of an office within the Department of Army Staff entitled, DA International Rationalization Office (DAIRO). The mission of DAIRO is to be the DA focal point for all rationalization, standardization and interoperability. It provides a monitoring agency to insure actions are tied together and progress in this arena is being accomplished.¹ Concurrently, the Training and Doctrine Command (TRADOC) representing DA, is conducting "Staff Talks" to develop concept papers with the British, Germans, and French.

The concept papers are broad in scope but are designed to provide bilateral agreements in the development of operational concepts in tactical areas. Concept harmonization is then followed by requirements definition, evaluation and cooperation on selected material, training and logistical items.²

The Army is also participating in many NATO forums in development of standardized procedures and terminology. An example is our representation on the Military Agency for Standardization (Army). The Army assisted in the development and promulgation of Allied Tactical Publication (ATP-35), Land Force Tactical Doctrine. This document establishes

common NATO doctrine for use by land force commanders in military operations when NATO forces are placed under their command.³ Additionally, the Army participates in the Quadripartite Standardization Program with British, Canadian and Australian (ABCA) countries. This program is designed to achieve the highest degree of interoperability and full cooperation.

The initiatives mentioned are only a few which are ongoing. However, progress in correcting these deficiencies in interoperability is slow and more emphasis is required from all NATO Allies. One area where positive progress is being made to overcome differences is the multi-national exercises such as REFORGER. These exercises as well as other joint allied operations provide the opportunity for all sides to train together and reduce differences. This essay will address one such exercise - REFORGER 80.

In September 1980, the 2d Armored Division participated in one of the largest, most complex REFORGER exercises ever conducted in Northern Germany. For the first time, a U.S. division deployed to Europe by sea and air, drew equipment, moved approximately 600 kilometers to the Northern Army Group area, came under operational control of the 1st British Corps and took part in a multi-national exercise. Additionally, the division received a National Guard 8" artillery battalion, a tank battalion from the 4th Infantry Division (as part of an Emergency Deployment Readiness Exercise), a tank battalion from 3rd Armored Division, an aviation battalion from the 8th Infantry Division, an engineer company from Fort Riley and an engineer company from V Corps. The planning, coordination, and execution for this exercise illustrated the need for greater interoperability, standardization and understanding between all allied units.

The amount of time available for planning (approximately one year) prior to the conduct of the exercise, enabled many differences in terminology, procedures, techniques, etc. to be addressed and resolved in advance. This is a luxury that short notification of deployment will not provide. Not only did some key planning personnel of 2AD have an opportunity to make several coordination trips, but also key leaders were able to conduct some advance reconnaissance.

The Commanding General, his staff, the major subordinate commanders, and their staffs plus selected battalion commanders participated in a two week British CPX known as JAVELIN. The CPX took place in June 1980 and used the same scenario and terrain that would be used for the actual exercise, FTX SPEARPOINT. The exercise provided key personnel a chance to become familiar with the terrain, command and control relationships, communications, and identify problems in coordination and execution of the planned operation. It provided the much needed face-to-face contact that enabled many problems to be either resolved or made workable. This CPX was considered by both U.S. and British personnel to be the cornerstone to the highly successful operation. Since allied units do not have the frequent opportunity to work jointly on such an operation of this magnitude, the training value was tremendous.

During REFORGER 80, some pertinent interoperability and standardization problems emerged from the planning, coordination and execution phases of the field exercise FTX SPEARPOINT. The scope of this essay will focus on problems encountered in liaison, passage of lines, and command, control and communications (C3) during which a US armored division was under the control of a British corps. The discussion will also include some of the corrective steps taken to insure effective coordination was achieved in accomplishing the overall mission.

LIAISON

Over the years, the authorized Tables of Organization and Equipment (TOE) for liaison personnel within maneuver battalions, brigades and divisions have varied in size and equipment. The TOE series have run the spectrum from a few authorized positions at some levels to none in others. (See Figure 1). An argument to support this minimum requirement might be that during peacetime these officers, noncommissioned officers, and enlisted men were not effectively employed on a day-to-day basis. There might also have been a perception that liaison duties could be accomplished as a secondary assignment. The attitudes may have been that if required either for exercises or actual war conditions, there would be sufficient time to designate and train liaison teams. Additionally, there may seemed to have been a greater need to use the force structure spaces somewhere else.

FIGURE 1
LIAISON AUTHORIZED SPACES

UNIT (ARMOR/MECH)	<u>TOE SERIES</u>			
	E	G	H ^{1.}	J
BATTALION	2 LT 2 E-3	2 LT 2 E-3	NONE	1 LT ^{2.} 1 E-3
BRIGADE	1 CPT, 1 LT 2 E-3	1 CPT (1 CPT) ^{3.} 1 E-3 (1 E-3)	NONE	2 CPT 2 E-3
DIVISION	3 CPT 3 E-3	3 CPT 3 E-3	NONE	3 CPT 3 E-3

NOTES: 1. Refers to latter H Series changes
 2. Only authorized at ALO 1
 3. Augmentation
 4. Chart data collected from U.S. Armor School, Armor Reference Data (E, G, H)
 5. J Series is proposed only

In my opinion, the U.S. Army has a serious deficiency regarding liaison position at division level and lower. Review Figure 1 for a

moment. It is immediately apparent that the latest changes in the H series TOE are significant. The TOE series lacks necessary liaison positions to meet contingency requirements. However, some units in Europe have a modified TOE to authorize liaison personnel. This is not the case in the U.S. based units. The new proposed J Series will authorize liaison teams at division, brigade and battalion. It should be noted however, this series only authorizes liaison personnel in battalion ALO 1 units. Most of the stateside units are at ALO 2. Liaison positions are needed whether units are ALO 1 or ALO 2. The ALO 2 units are still deployable. Furthermore, all liaison teams must be properly trained and equipped prior to being committed.

Without question, there is a critical need for assigned liaison personnel who are well trained and are experts in their job. The need for this capability has been acknowledged throughout the many wars in which the U.S. has participated. World War II probably stands out as the war that required the most extensive use of liaison teams. The following quotes are good examples of some of the problems confronted by U.S. and Allied units during the North African campaign.

The Allied experience in Tunisia, particularly during the early period, which featured widespread integration of units, highlighted the lack of trained, organized and equipped liaison sections. These elements could have done much to alleviate the confusion caused by the intermixing of units and to assist in establishing an effective information flow by supplementing the allied command signal communication.⁴

Liaison sections, where required and not previously provided for, were improvised out of local resources of personnel and equipment which was always in short supply. Frequently, there was no attempt to provide or effect liaison between allied units which resulted in a great deal of confusion, loss of time and combat effectiveness. Also the language problems complicated the liaison situation.⁵

Many of these same problems still exist today. The requirement for several well trained and equipped liaison teams became apparent during

REFORGER 80. The 2AD, while under the operational control of the 1st British Corps, was required to exchange liaison personnel. Since the exercise was conducted under a war time scenario, it required the normal liaison interface. There were phases where the division headquarters alone would have as many as 10 to 12 personnel involved in liaison duties. The brigades and battalions had further requirements. Since the current TOE does not authorize liaison personnel and equipment, these requirements had to be filled by pulling officers, noncommissioned officers and enlisted men away from either their primary duties or from divisional units not participating in the exercise. The latter alternative obviously can only be accomplished during peacetime deployments.

Two major problems stem from this quick fix method. First of all, the necessary personnel are not trained in liaison duties. Secondly, they are not normally familiar with the duties at the level in which they are representing, i.e., a battalion officer or NCO attached to division for liaison duties with an allied corps or division. They do not have the proper background and expertise to accomplish the mission in the manner required.

What were some of the other problems encountered in the planning, preparation, and implementation of liaison personnel for FTX SPEARPOINT? What were some of the actions taken to resolve them? During the initial planning stages of the exercise, 2AD was not fully aware of the overall numbers of personnel and equipment and individual qualifications required to form liaison teams. Therefore, initial steps in the early stages to develop and train teams were minimal. However, with the division's participation in the British CPX JAVELIN, an opportunity was provided to identify the liaison problems prior to FTX SPEARPOINT. Even

though the division designated liaison personnel prior to the two week CPX, liaison problems were among those which needed further resolution.

To begin, liaison personnel that represented division headquarters were selected from various levels of command. As mentioned before, this had to be done because liaison personnel and equipment were not authorized in the TOE for 2AD. Because the personnel were being pulled from other units, there was a tendency to be conservative in the number tasked. Therefore, during the CPX phase, we found there weren't enough to satisfy all the demands. Secondly, the personnel initially tasked were not properly equipped to handle their assigned duties. The radios mounted on the 1/4 ton vehicles were not secure voice capable and vehicle antennas could not reach the required distances. Also, liaison teams needed to be more self contained in their working facilities and material. Third, liaison personnel were not as familiar with the British SOP's, terminology, doctrine and reporting procedures as they should have been. And there was a lack of knowledge of the British techniques of writing and issuing of orders. These discrepancies were not the fault of the individual filling a temporary position as a liaison, but rather the lack of emphasis placed on liaison duties in the early stages of preparation. It is the old syndrome of "if the duty isn't important enough to have the position authorized, leave the mission of training until the last."

Finally, it should go without saying that liaison positions must have top quality personnel. These individuals represent their commanders and units and in the case of 2AD, their country. Therefore, selectees should be thoroughly screened and only the best personnel, to include drivers, be designated. A commander should want to insure that vital information is communicated accurately and expeditiously. Addi-

tionally, he should want his liaison teams to be respected and highly professional in the view of the units with which they are associated. The 2AD did select outstanding personnel for the job but many did lack liaison experience.

Lack of experience and numbers of liaison teams were identified as shortcomings early in the CPX. Once this exercise was over, the division immediately began to take corrective action. Additional liaison teams were formed to meet the requirements not envisioned earlier. More quality personnel were selected to insure a 24 hour capability. Officers were selected by branch and rank to insure the expertise was available. NCO's and enlisted personnel were also carefully screened. Regarding equipment, liaison teams were provided a 1/4 ton vehicle with trailer. The vehicle radios (AN-VRC 46) were augmented with a 292 antenna to provide the capability of transmitting and receiving over greater distances. The communications system was capable of secure voice. Each team required this radio capability due to the noncompatibility of the U.S. and British communication system.

Besides communications, the teams became more self contained to perform their assigned missions. For example, they carried portable map boards, maps and extra map sheets, field tables, sufficient amounts of overlay materials and acetate. The British liaison elements arrived at the 2AD equally self-contained and only required working space in the tactical operations center and mess facilities. Billet space at this level and lower was not required. The British have a good SOP for liaison procedures and they adhere to it. One more brief point before moving on, it is essential that all the equipment used in liaison duties be in excellent working condition and thoroughly checked prior to

departure. Support of these personnel has to have a high priority when it comes to maintenance repair or equipment exchange.

In dealing with the lack of knowledge of the British SOP's, reporting procedures, doctrine, terminology, etc. the following action was taken. Upon return from the CPX in Germany, the division established a short liaison orientation course. All officers, noncommissioned officers and enlisted drivers attended. The course included brigade and battalion liaison personnel as well as those from division. A detailed briefing of the tactical scenario, reporting procedures, pertinent areas within the British SOP, British customs, rank structure and organization, tactical orders and some differences in terminology. It can be accurately stated that even though the U.S. and British speak the "English" language, words take on a new and different meaning especially in military terminology. For instance, a tank battalion in the U.S. Army is called a tank regiment in the British Army. Companies are squadrons and platoons are troops.

The orientation course provided instructions on the proper use of the British communications system and the German Bundespost. Since the exercise was conducted in Germany, liaison personnel were provided small, but comprehensive U.S./German language dictionaries. This document included numerous common phrases. Upon completion of the orientation, additional reference material concerning the operation was provided each member to further develop his knowledge and expertise. Even though the liaison personnel did a truly remarkable job, the orientation course was far too short in time and too broad in nature. More detailed information and time are required to properly prepare liaison elements to perform their duties. What was done in an ad hoc manner could have been accomplished better if the division, brigade and battal-

ions would have had permanently assigned liaison teams.

What needs to be done to correct the lack of emphasis on liaison requirements in future operations? As pointed out in a study by LTC Hixson and Dr. Cooling entitled, "Interoperability of Allied Forces," "At present there is only brief mention of liaison in the U.S. Army FM 101-5. The duties are only generally outlined. There is no mention of selection criteria, need for specialized training or the responsibilities of the dispatching headquarters. This omission underlines the current lack of interest in a very important aspect of military operations, especially operations with allies".⁶ Without question, this was found to be true on REFORGER 80.

To correct this major deficiency of liaison within the Army, there needs to be some guidelines and responsibilities for liaison teams. This information should be published in the current FM 101-5, Staff Officers Field Manual, as it was in the following 1942 version of FM 101-5.

LIAISON OFFICERS

1. Selection of Liaison Officers:

The maximum effectiveness of liaison missions will be secured if the officer selected for this duty:

- a. Has the confidence of his commander.
- b. Is favorably known, either personally or by reputation, by the commander and staff of the unit to which sent.
- c. Has a sound and comprehensive knowledge of tactics.
- d. Possesses tact.
- e. Has had experience or training as a liaison officer.
- f. Possesses the necessary language expertise (if required).

2. Duties of Liaison Officers:

a. Prior to departure the liaison officer should:

- (1) Become familiar with the situation of his own unit and so far as practicable with that of the unit to which sent.
- (2) Ascertain definitely his mission.
- (3) Insure that arrangements for communication (signal and transport) are adequate.
- (4) Obtain credentials in writing unless obviously unnecessary.

b. On arrival at headquarters to which sent, the liaison officer should:

- (1) Report promptly to the commander, stating his mission, and exhibiting his directive or credentials, if in writing.
- (2) Offer his assistance to the commander, if appropriate.
- (3) Arrange to obtain information required by his mission.
- (4) Familiarize himself with the situations of the unit to which sent.
- (5) Establish communications with his parent headquarters.

c. During his liaison tour, the liaison officer should:

- (1) Further harmonious cooperation between his own headquarters and the one to which sent.
- (2) Accomplish his mission without interfering with the operations of the headquarters to which sent.
- (3) Keep himself informed of the situation of his own unit and make that information available to the commander and staff of the unit to which he is sent.
- (4) Keep an appropriate record of his reports.
- (5) Report on those matters within the scope of his mission.
- (6) Advise the visited unit commander of the contents of reports to be sent to his own headquarters.

- (7) Make prompt report to his headquarters if he is unable to accomplish his liaison mission.
- (8) Report his departure to the visited unit commander on the completion of his mission.
- (9) Make note of personality traits, idiosyncrasies, etc., of key commanders and staff officers of the headquarters/units visited. This should remain CONFIDENTIAL.

d. On return to his own headquarters, the liaison officer should:

- (1) Report on his mission.
- (2) Transmit promptly any requests of the commander from whose headquarters he has just returned.
- (3) Report on key personalities and general operations of the headquarters from which he just returned.

3. Duties of Sending Headquarters:

- a. Give the liaison officer definite and detailed instructions, in writing if appropriate, as to the liaison mission.
- b. Inform the liaison officer to the commander's plans, especially as they affect the unit to which he is to be sent.
- c. Insure that adequate facilities are available for communication between the liaison officer and the sending headquarters.
- d. Brief the liaison officer in as great of detail as possible concerning the type unit to which he is being sent and key personalities he will encounter there.

The above was extracted from FM 101-5, Staff Officer's Field Manual, as changed, 8 September 1942, pages 31-34.

The above instructions should be revised to incorporate all the areas outlined in the NATO Standardization Agreement (STANAG, 2101) "Principles and Procedures for Establishing Liaison," 15 April 1977. This STANAG provides a good guide for all allied liaison personnel. An area which requires emphasis in both the U.S. and NATO publications for liaison is the need for personnel to have proper NATO security

clearances. This is essential. The requirements for this type clearance are more difficult to obtain. This discrepancy has caused many problems and delays in coordination.

Further corrective steps should include the professional development of liaison personnel. Liaison teams should be extremely knowledgeable on all the military aspects of each allied country with whom we have a contingency plan. They should be familiar with SOP's, organizations, equipment, etc. Additionally, language qualification should be emphasized. The Field Manual 100-5, Operations, (final draft) identifies a need for language trained liaison personnel. It emphasizes the requirement for a language capability to communicate in the language of the forces with whom we operate. Further it highlights a need for printed "key word lists" in multiple languages for better communications.⁸ We need to insure our other manuals are in line with FM 100-5.

There also needs to be a comprehensive packet of instructions for liaison personnel. This material should include lesson plans to educate newly assigned personnel in liaison positions. In turn, these individuals should be required to provide periodic briefings to their units on the various allied countries in which we are involved in contingency planning. They should become the experts.

A point that requires further attention concerns the use of personnel resources. Working under crisis or war time situations is not the time to take resources from subordinate units to accomplish LNO duties. Units will not be able to give up critical officer and NCO personnel to be attached temporarily to division or brigade. Shortages exist now, so this action just further exacerbates the situation.

Was liaison effective with the British Corps during FTX SPEARPOINT?

The answer is yes. However, a great deal of effort was required in preparing personnel for the job. Time was available to do this with the numerous planning and coordination sessions. The two week CPX also was valuable and allowed reaction time. Currently, I don't feel the Army is fully prepared to handle these essential tasks under a short notice scenario. The quick fix method is not the answer. We must insure well trained liaison personnel are authorized and prepared to do their jobs.

PASSAGE OF LINES

Now let's move on to the second area of interest - passage of lines. This military operation is one of the most difficult and critical operations to conduct. The detailed planning and coordination required for successful execution is great. FTX SPEARPOINT made this very obvious to all the participants. Due to the size and types of units involved in the passage of lines, a great deal of time and effort was needed in the early stage of preparation.

Let me briefly describe the tactical situation. The 2AD moved into assembly areas to the rear of the 1st British Corps. Upon closing, the Corps issued the division an order to conduct a counterattack through two forward British divisions. Both the British divisions were in contact with an enemy force. They were holding defensive positions awaiting the passage of 2AD. In short, the plan called for two brigades of 2AD to pass through the two forward British divisions and attack to seize key objectives. The third U.S. brigade was to follow the attack on the right. The 2AD was to gain OPCON of a Task Force (TF) from the left forward British division upon passage. This TF would then follow the left flank U.S. brigade. Therefore, the combat formation consisted of two U.S. brigades leading and a British TF and one U.S. brigade

following in zone.

Planning and coordination to execute this operation was accomplished in great detail approximately 24 hours prior. The British corps headquarters and the two British divisions sent staff planners down to the 2AD for coordination. All staffs were represented, i.e., administration, logistics, operation, artillery, electronic warfare, signal, engineers, military police, local police, civil affairs, air defense, intelligence, etc. The conference was comprehensive and required 2AD to provide corresponding staff representatives from division and brigade level. The meeting took several hours and ended with the development of a thorough plan which was agreed upon and understood by all. Final coordination was, of course, left for accomplishment on site by the units involved.

What were some of the problems encountered in preparation for the passage? First, I will address some general problems. The British units plan for a passage of lines in greater detail than U.S. units. Their planning procedures are very comprehensive. They literally cover all aspects and contingencies. They consider this military operation to be very important and much emphasis is placed on it. Staff officers and key leaders know exactly what is expected of them. Their knowledge is quite evident and their approach is very professional. Further, the British troops were well prepared to execute the operation. On the other hand, it is my opinion that U.S. units overall don't treat this tactical mission with the same sense of importance. Normally, during training exercises our planning of a passage involves only part of the key personnel such as operations, intelligence, fire support, engineers and signal. For instance, how often have the logistics, administration,

and military police personnel participated in the planning of a passage. Very few times. They are normally busy doing other tasks during field training exercises. My point is that we need to get every player involved in the planning so all staff members know their jobs and can execute their responsibilities.

Next, our Standard Operating Procedures (SOP's) generally don't provide enough detailed guidance for this type of operation. The overall guidance is generally broad in nature and depending on the level of reference it may not exist at all. In the case of 2AD, there was time to improve on procedures and orient on the problem areas. However, a short no notice deployment may not allow such a luxury.

Our training in this area also requires improvement. We never allow enough time to effectively plan a passage. To accomplish this mission, planning time and coordination are essential. In our everyday training, we treat this task as only a small part of the overall attack or exploitation. By placing most of the emphasis on the latter, many leaders do not get into the detailed procedures required to conduct a realistic passage. This deficiency begins with the leadership providing very little pre-exercise instruction to the troops. Too often leaders feel that only a few need to know how to conduct a passage. Another contributor is our current Army Training and Evaluation Program (ARTEP) for Mech and Armor. The passage is considered as a supplemental task and is not required to be performed.

Further, a passage conducted in our training exercises is not normally accomplished with one unit passing through another. It is usually conducted with a few personnel at the passage point representing larger units. Even many of these personnel are not fully knowledgeable of the requirements. The commanders and staffs don't always actually go

through the complete coordination process. The proper technique is accomplished when commanders and staffs realistically train by planning, coordinating, and executing the task with other unit counterparts. There are significant training benefits in knowing how to coordinate a passage when being passed through or being the units doing the passing. Also, it is important to train personnel on this operation at night. For instance, control is very difficult when night operations are combined with radio silence. Realistic training is a must, and night training is a vital part of it.

Another general problem lies within our doctrinal manuals and other training publications. The FM 71 series varies in information on how to conduct a passage of lines. The field manual for armored cavalry, FM 17-95, has less detail than the FM 71 series, and the cavalry is subject to execute this operation more often than the infantry and tank units. It should be noted that the ARTEP tasks for cavalry and infantry are the same. To move up to a higher level, the published STANAG 2082, dated September 1978, outlines a few areas to consider in a passage that aren't in our manuals. My point should be obvious. We need to standardize our manuals internally and insure they are in accordance with our agreed STANAG's and allied tactical publications. My contention is that we must use the same techniques and procedures whether its U.S. units passing through other U.S. units or allied units.

Now I will address some specific passage problems and actions taken while working with the British units. In the area of fire support coordination, it was determined early that targets numbering, target lists and fire plan formats were compatible. The problems came mainly from communications incompatibility. The immediate solution was to

exchange liaison teams with radios between the Royal Artillery Headquarters and DIVARTY. Liaison between battalions was accomplished through the collocation of fire direction centers (FDC's). This technique was effective because it eliminated the requirement for additional liaison and responses were faster. The time saved by not having to use liaison personnel was ample justification for the collocation concept. This concept was particularly effective for the passage of lines and during the forward movement. The continued exchange of orders of battle and targeting data enhanced the transition of field artillery control of the battle. Several slight definitional differences in terminology were discovered but were quickly compensated for by the FDC.⁹

One slight problem occurred in the collocation of the passing brigade CP with the Task Force CP. It is proper procedure for the passing brigade to collocate its CP with the unit in which it is moving through. Normally, this is accomplished by collocating the forward CP known as the "jump". When the U.S. brigade did this, however, it was quickly learned that the British "jump" does not exercise command and control, but instead monitors the battle and provides the commander a forward communications site if he desires to move. Many primary staff officers (FSO, S2, BAME, ALO) are located in the TF Main CP. Therefore, it is essential that the U.S. brigade staff collocated at the TF Main CP during a passage of lines. The brigade commander should collocate with the TF commander regardless of location.¹⁰ This situation basically resulted from lack of knowledge of the two forces' method of employing forward CP's.

As briefly mentioned earlier, there were also differences in terminology which had to be understood and resolved. A few examples are as follows. The U.S. use the term "assembly area" to denote those loca-

tions for units to position themselves prior to the execution of a passage. The British called these areas "hide positions". The term "passage point" is basically defined by the U.S. to mean that point where the actual passage occurs. In British terminology the same term is defined as a coordinating point which could be a couple of kilometers behind the front line trace. The British use the term "start line" which is our "line of departure". They use the term "Forward Line of Own Troops (FLOT)" which is the same as our "Forward Edge of the Battle Area (FEBA)". These are just a few; however, with close coordination they can be easily resolved.

The planning and coordination of road networks during a passage is an area that requires continuous training and practice. Because we seldom conduct brigade size and higher passage of line operations, we don't pay enough attention to planning march tables and movement orders. In the case of this counterattack, the planning and coordination for the movement of maneuver units and artillery was planned out in detail. However, the priority of road usage for resupply during and just after the passage was executed presented a problem. The British front line of troops had been fighting for several days when the 2AD was ordered to conduct the counterattack. Once the U.S. brigades passed through, the British forward divisions wanted to immediately begin resupply. They requested priority on the roads. The problem was that the combat service support for the 2AD was also in need of the same road network to sustain the counterattack. Prior planning had not addressed this situation and both forces found themselves in a couple of traffic jams. The problem was worked out, but my point is that neither side planned for this situation in advance. It was an example of where we did a marve-

lous job of coordinating the maneuver units but forgot the essential supporting elements.

The passage of lines coordination also highlighted the need for more training in minefields and obstacles. This refers to planning and the lack of knowledge of how other allied forces lay their mines and mark the lanes. The British employed many minefields during this phase of the exercise to complement their defense. They also provided engineers to guide our passing troops through these obstacles. In a real situation, I question how prepared we were to receive the responsibility of those mines and obstacles if required. Our field training is lacking in this area and we must place more emphasis on it.

One can see, time was available to work out the problems. The key was, without doubt, the ability to do face-to-face coordination throughout the passage. A lot of time was spent on explanations of terminology, organizational techniques, etc. In my opinion, much of the difficulty can be resolved by further standardizing our doctrinal manuals and publications and aligning them with STANAG's. Additionally, STANAG's need revising to provide more detailed guidance for the conduct of a passage of lines. An improved "key word list" for terminology within NATO would reduce some confusion. Finally, we need to train based on the expanded guidance for a passage and do it under realistic conditions.

The 2AD, knowing in advance that a passage of lines would be required, trained its leaders and soldiers extensively during field exercises leading up to FTX SPEARPOINT. The training was performance oriented and realistic. Time was allowed for planning and coordination. The division executed the passage of lines during the British exercise expertly. They were well trained.

COMMAND, CONTROL, COMMUNICATIONS (C3)

The final area is the command, control, and communications during FTX SPEARPOINT. The communications portion, however, will only be discussed as it applies to the aspects of command and control. I will preface my comments by saying that the overall command and control relationship with the British Corps headquarters was very successful. Achievement of success was primarily due to a great deal of pre-planning and coordination efforts.

The 2AD was under the operation control (OPOON) of the 1st British Corps for the exercise. Operation control is defined in FM 101-5-1 as "the authority delegated to a commander to direct forces provided him so that he may accomplish specific missions or tasks which are usually limited by function, time, or location; and to deploy units concerned and to retain or assign tactical control of those units. It does not, of itself, include administrative or logistical responsibility, discipline, internal organization, or unit training".¹¹ A key factor in this type of command relationship is that 2AD was responsible for its own logistical support. To accomplish this, the division was linked to a U.S. Support Command located in the NORTHAG area.

FTX SPEARPOINT provided a couple of other opportunities to exercise operational control of participating forces at different levels. For example, the 2AD received OPOON of a British Task Force (BDE) while simultaneously placing a U.S. tank battalion OPOON to that Task Force. This organization for combat lasted approximately 24 hours. The cross attachment of units provided an excellent chance to identify problems and work out solutions for achievement of the assigned mission or tasks.

Several problems surfaced, but none were insurmountable.

The command and control for the 2AD was accomplished through the employment of a TAC and division Main CP. The Commanding General and the G-3 were located primarily in the TAC. Therefore, the TAC controlled the battle. The TAC CP moved frequently and took full advantage of the use of villages and barns for locations. Continuous displacement reduced the acquisition of communication signatures, and locating in built up areas capitalized on good cover and concealment. The British divisional headquarters operated in a similar manner. They maximized the use of built up areas and their division commander operated in a small CP well forward. The British and U.S. doctrine have very few differences in CP employment at division level.

One big difference in command and control is the commanders conference calls required by the British corps commander. At a designated time in the evening the corps commander would call for a situation report and then issue his guidance. The commanding general of the division had to be available for this call. This meant insuring he was back at the CP each night at the same time. The technique is good, but it has to be more flexible. The assistant division commander or chief of staff should be able to take the call. In combat, the availability of the division commander will be based on the status of the battle. Our techniques of issuing guidance provides more flexibility.

The single largest impact on command and control between the British Corps and 2AD was communication. As mentioned earlier, our communications are not compatible. Due to this dilemma the corps dispatched to the division Main and TAC CP's, their tactical communications system known as the Bruin. Also, they provided a VHF command net and a teletype capability. The Bruin and VHF net provided effective

secure communications. The British also provided a backup to each of these systems for redundancy. It should be noted that the quantity of these assets provided would probably not be available in a real situation. The back up systems used for the exercise are not normally available under the British organizational structure. In addition, liaison teams with radios were exchanged which provided another backup means to insure continuous contact. Liaison personnel also used the German Bundespost line for emergencies. Even though this means was not secure, it did provide an alternative. Overall the communications at this level worked out very well.

The problems of communications became more apparent when 2AD received OPCON of the British Task Force. Due to the incompatibility, a special patch was established from the British Task Force's Bruin system to the 1st British division through the 1st British corps and into the corps liaison officer located at the 2AD CP. Also a U.S. liaison team was sent to the Task Force. This technique provided two means of communications. Although this quick fix method established communications, another problem was identified. Adjacent brigade size units pass their front line traces to the division CP by means of secure VHF. The OPCON Task Force was unable to monitor locations and other reports being transmitted. The tactical operation center personnel were forced to continuously retransmit unit dispositions and current situation status reports. This obviously tied up the net. Due to time delays in retransmission, the dispositions of units during a fast moving situation were many times inaccurate. This process is not good because the chances for confusion and misinterpretation significantly increase. As for the overall situation, this method worked as effectively as

possible. The answer is, of course, to develop compatible radio systems to fully alleviate the problem. The U.S. armored battalion OPOON to the Task Force experienced similar problems.

Upon joining the Task Force, the U.S. battalion commander found many similarities in the conduct of the operation. The tactical plan was outlined in a five paragraph field order which was basically the same as ours. Although some terminology was different, there were not enough differences to hamper the execution of the operation. A factor which minimized this problem was the Task Force commander's technique of personally briefing the operational concept and insuring that all possible misinterpretations were resolved. Additionally, his staff followed his presentation with a very detailed staff briefing. However, this briefing was felt by the U.S. commander to be far too detailed and time consuming. We operate with shorter and more informal issuance of orders than the British. We feel that staffs have a tendency to provide more detail than necessary which can cut into the time needed by the commander to prepare his own unit.

Once the battalion commander received his mission, the Task Force provided him a liaison team. The teams vehicle had good communications with the Task Force and was continually positioned beside the U.S. commander. This technique was essential for command and control. Good visual and physical contacts between flanking units contributed to staying abreast of the situation. Additionally, the British make extensive use of check points and contact points for control which further aided the U.S. battalion commander. Except for the communication requirement, there was little unusual in the area of control.

Let's return for a moment to further comment on the technique of issuing orders. The technique used can be key to command and control.

With incompatible communications, face-to-face contact is vital. The Commanding General of 2AD used this technique extensively, not only with the British Task Force commander, but with his own brigade commanders as well. He verbally issued the essential information in a five paragraph operations order and then answered questions. The commanders, having received and understood their orders, immediately returned to their units to begin development of their plans. The G-3 followed this briefing with a more detailed written order through teletype means and courier. Face-to-face contact eliminates a great deal of questions and enhances valuable planning time at the lower levels.

Face-to-face contact was also essential for command and control during the passage of lines. The CG 2AD and CG of the British division being passed through, located their CP's physically together. Decisions could then be made immediately and with full coordination on both sides. Brigades and battalions also collocated. Liaison requirements were reduced and communications problems minimized.

The reporting procedures established in the British SOP also had an impact on command and control. The U.S. divisional staff had to learn to respond to the required reports. The report format, request for information, and times required were different than those of the 2AD. Initially, there was confusion and requirements were either missed or reported late. The CPX JAVELIN identified reports as a problem area, but time was available to train personnel from division down to battalion on the reporting system. Even though the problem was resolved, it is worth re-emphasizing the need to be familiar with the SOP's and procedures of our allies. Well trained liaison personnel can assist in this requirement. It further points out the need for detailed STANAGS

to insure SOP's and procedures are similar.

Continuous joint operations can refine relationships in command and control. The more we train together, the better our effectiveness will be. Command and control can be made to work but action needs to be taken in communications. I see two choices. Either we (allies) get serious and develop compatibility in our radios or we must authorize enough liaison officers, NCO's, and enlisted personnel with effective long range radio equipment to handle the job. We must communicate if we are to fight side by side.

CONCLUSIONS

The requirement for increased interoperability and standardization of doctrine, procedures, and equipment within the NATO alliance remains vital. In order to reduce the ever growing dilemma of being outnumbered by the Soviets and Warsaw Pact Forces, the Allies must become more serious in this area. As this essay has illustrated, the U.S. and its NATO allies have made several initiatives to enhance standardization. However, progress is far too slow. The U.S., being the largest power, must be the driver in this endeavor and get things moving at a faster pace. Multi-national exercises, such as REFORGER 80 and in particular FTX SPEARPOINT have demonstrated the need for greater interoperability and standardization. These exercises are excellent and they provide time and opportunity to resolve operational problems. However, time will be critical in a short notice situation and little will be available for working out major differences.

As history has taught us many times, the need for liaison personnel is very important. FTX SPEARPOINT demonstrated the clear need of authorization of liaison personnel at battalion, brigade and divisions.

The newly proposed J-Series TOE has attempted to provide liaison positions. However, it is still deficient at battalion level with an authorization at ALO 1 only. Liaison positions should be authorized at a minimum in both ALO's 1 and 2.

Once authorized we need to select quality personnel and properly train them. Instead of being an "extra officer or NOO", these individuals need to develop knowledge of the job. Further, they need to apply it on a day-to-day basis. They should be responsible for developing good SOP's and educating unit personnel on various allied procedures, organization and equipment.

Additionally, our manuals pertaining to liaison need reviewing, and detailed procedures and responsibilities should be published. Possibly a revision and update of the guidance provided in FM 101-5, dated 1942, will meet the requirement. It is also important that appropriate STANAG's be reviewed to insure standardization.

Next, we must insure the liaison teams have good functional equipment especially radios. The radios must be able to communicate over long distance and have a secure voice capability. I feel the FM 100-5, Operations, (final draft) succinctly sums up the need for liaison teams.

The requirement for effective liaison among forces in a multi-national structure is greater than for unilateral operations. Liaison team members should be bilingual and knowledge of organization, procedures, and equipment of the forces with which they will operate. Teams should be formed, trained, and equipped prior to hostilities.¹²

I say, lets do it, not talk about it.

The passage of lines is a very important military operation. It is imperative that all allied units be able to plan, coordinate, and execute a passage. This difficult mission can be successfully accomplished

through better guidance in our field manuals, improvement of SOP's, improvement of STANAG's, more detailed planning and coordination exercises, and above all realistic training. Realistic training should include increased time dedicated for the mission during unilateral and multi-national exercise and a great deal more training under night conditions.

Further, training is essential for all key leaders and staff members of U.S. units from division level down. They must know how to properly plan, coordinate and execute a passage. Where possible, it is important for brigade and battalion size units to practice passing through one another instead of using a small representation or simulating units. The passage of lines operation can only be refined by actual practice and through face-to-face coordination of commanders and staffs, under realistic conditions.

More emphasis needs to be placed on this task in our ARTEP's. Its importance should require it to be more than a supplemental task. Since many of our contingencies call for some sort of reinforcement role, it stands to reason that a passage of lines operations can be counted on as a required task. The British have recognized this, so must our leaders.

Command, control and communications (C3) still requires more work. The differences in command and control between the British and U.S. forces were minimal. Problems resulting from differences in orders, terminology and tactical procedures were worked out through face-to-face coordination. However, the incompatible communications is still the biggest problem. Communications is obviously the key to orchestrating any successful operation. Without compatible communications between allied forces the interoperability and standardization problems are much

greater. As pointed out in the liaison section of this paper, we must have interoperable radios or use liaison teams as the primary solution. To fight together on the battlefield, allied forces must be able to talk and monitor the other allied units on their flanks. Multi-national exercises have shown this many times, and REFORGER 80 was no exception.

REFORGER 80 has pointed out the need for increased interoperability and standardization between the British and U.S. forces. Many differences and problems were discovered and resolved because there was a year's planning time to accomplish it. We should take advantage of peacetime conditions to make our corrections. This is the time for making improvement in all those areas mentioned both nationally and with our allies. The important thing is not to put off these corrective actions until another exercise comes along. The next exercise may be for real. We must improve now. The cornerstone is training and it must be realistic.

FOOTNOTES

1. U.S. Army Regulation 34-2, Rationalization, Standardization, and Interoperability Policy, Department of the Army, Washington, D.C., December 1980, page 2-5.
2. U.S. Department of Defense, Rationalization/Standardization Within NATO, Washington, D.C., January 1981, page 130.
3. Allied Tactical Publication (ATP-35), Land Force Tactical Doctrine, Military Agency For Standardization (Army), 1110 Brussels, Belgium, April 1978, page 3.
4. Hixson, John A., LTC and Dr. Benjamin Franklin Cooling, Interoperability of Allied Forces, U.S. Army Military History Institute, Carlisle Barracks, PA, November 1977, page 16.
5. Ibid, page 17.
6. Ibid, page 18.
7. Ibid, pages 37-39.
8. Field Manual 100-5, Operations, Final Draft, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 4 September 1981, page 17-6.
9. Second Armored Division, Reforger 80 After Action Report, Fort Hood, Texas, 13 November 1980, Annex E, page E3-4.
10. Ibid, page E-7.
11. Field Manual 101-5-1, Operational Terms and Graphics, Department of the Army, Washington, D.C., 31 March 1980, pages 1-82.
12. Field Manual 100-5, op. cit., page 17-6.

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